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STATISTICAL REVIEW OF COUNTING
ACCELEROMETER DATA FOR NAVY AND MARINE
FLEET AIRCRAFT
FROM 1 JAN 1962 TO 1 JAN 1973

SEMI-ANNUAL SUMMARY REPORT

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DEPARTMENT OF THE NAVY
NAVAL AIR DEVELOPMENT CENTER
WARMINSTER, PA. 18974

AIR VEHICLE TECHNOLOGY DEPARTMENT

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SEMI-ANNUAL SUMMARY REPORT
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This report provides a specialized summary of normal acceleration data recorded by counting accelerometers. Data are separated by calendar time and major category of fleet experience. Only data reported in the counting accelerometer program are included.

Reported by: *Thomas DiFiore*
THOMAS A. DE FIORE
Mathematician

Approved by: *C. G. Weeber*
C. G. WEEBER, Supt.
Structures Division

SUMMARY

This is a semi-annual progress report, and it presents a specialized summary of the data in the counting accelerometer program. Statistics describing Navy and Marine aircraft cumulative g-count exceedances are calculated and tabulated. These tabulations are separated by calendar time and into four major categories of fleet experience: Navy Training, Navy Combat, Marine Training, and Marine Combat.

These data show that the load rate distributions (counts at 1000 hours) for most models and most g-levels have a non-normal distribution. Within a model (F-4B, F-8H, etc.) differences in the average load rates exist when data are separated by calendar time or mission category.

SPECIAL NOTES

1. This report supersedes and replaces all previous issues of this semi-annual report. (Previous issue report control symbol NADC-13920-2 dated 1 Nov 1972).

2. Additional copies of this report may be obtained from:

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> Air Vehicle Technology Department (Code VT)
> Warminster, Pa. 18974
> Area Code 215 OS 2-9000 (Ext. 2896
> Autovon 441-2896

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* TRANSDUCER LOAD-LEVEL RANGE   (4-, 5-, 6-, 7-g)

** TRANSDUCER LOAD-LEVEL RANGE   (6-, 7-, 8.5-, 10-g)

INTRODUCTION

The NAVAIRDEVCEN (Naval Air Development Center) is engaged in various flight maneuver-loads programs as assigned by the Naval Air Systems Command. One of these is the counting accelerometer program, and under this program data have been collected and reported since 1955.

The primary purpose of this program is to provide the flight load history of individual Navy and Marine aircraft. Other purposes include, but are not limited to, the comparison of operational loads environment with structural design requirements, the comparison of load histories of one model with another, and the determination of expected loads environment of future models. More recently, however, these data are used as the major input in the NAVAIRDEVCEN Aircraft Structural Fatigue Life Program in estimating structural fatigue damage for those aircraft which do not have counting accelerometer data.

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DISCUSSION

This is a semi-annual progress report and includes statistical summaries for all Navy and Marine aircraft (whether they are currently in service or out of service) which have reported in the counting accelerometer program. Out-of-service models or models which have not reported counting accelerometer data during the previous 12 months appear in Appendix A. The summary for each out-of-service model is its final summary. New models are added as their counting accelerometer data become available.

For each model, the following statistics are presented: (See Appendix B for the statistical procedures.)

$\bar{x}$ - the estimated mean load exceedances (counts at 1000 flt. hrs.) for each g-level recorded on the counting accelerometer.

S - estimated standard deviation (counts at 1000 flt. hrs.) of the load exceedances for each g-level.

A_3 - estimated skewness factor for the load exceedance distribution.

Two statistical summaries describing cumulative g-count exceedances and flight hours for each currently operational model are presented:

1. The first summary includes all quality-control accepted data reported in the time period comprising the terminal date of this report and the 12 months preceding that date.

2. The second includes all quality-control accepted data reported in the counting accelerometer program from the day each airplane was delivered for service to the terminal date of this report.

The first summary, which includes only the most recent 12 months, shows an indication of a model's current severity of usage. The second summary describes the severity of loads experienced by all airplanes of each model since acceptance. A comparison of the first summary with the second shows whether current usage for any model is more or less severe than usage over its full lifetime.

A further breakdown by mission category is provided. These are provided for each airplane model in both of the aforementioned summaries. These categories are defined as follows:

1. Navy Training - an airplane in a Navy squadron assigned to a non-combat zone. (This includes all Navy airplanes not classified as being in a combat zone.)

2.   Navy Combat - an airplane in a Navy squadron assigned to a combat zone.

3.   Marine Training - an airplane in a Marine squadron assigned to a non-combat zone. (This includes all Marine airplanes not classified as being in a combat zone.)

4.   Marine Combat - an airplane in a Marine squadron assigned to a combat zone.

The statistics for the F-4J Blue Angels are separated into solo aircraft and diamond formation aircraft. In the subsequent tables, the total flight hours shown for a given model are the sum of the hours reported for each category. However, summing the number of airplanes reporting in each category can result in a number exceeding the total aircraft, because the same airplane may have seen service in two or more categories. Its data were separated for calculation of statistics for each respective category.

Some general statistical observations for fleet-wide loads data are the following:

1.   The load exceedance distribution for many of the aircraft models is non-normal (particularly asymmetrical) at all the g-levels recorded. In general, the degree of asymmetry increased with increasing g-level.

2.   The scatter measure $\frac{S}{\bar{x}}$ (coefficient of variation) increases with higher g-levels.

3.   For a given g-level, there is more scatter in loads received during training than during combat.

4.   Differences exist in loads frequency among various configurations of the same model and various mission categories within the same configuration.

ACKNOWLEDGEMENT

T A B L E S

Counting accelerometer data are subject to quality control criteria
modifications. Thus, in succeeding reports, model-wide summary
statistics are subject to change even though a model may no longer
be in service.

MODEL F-4J

7   AIRPLANES   1083   HOURS

BLUE ANGELS

NAVY

DIAMOND	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	232.36	27.45	1.78	0.00
S	**			
A_3				

4   AIRPLANES

568   HOURS

SOLO	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	1133.45	114.17	9.88	7.41
S	**			
A_3				

3   AIRPLANES

495   HOURS

MARINE

	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNT   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

ALL DATA
01-62 TO 12-72

MODEL F-4J

13 AIRPLANES 7472 HOURS

BLUE ANGELS

NAVY

DIAMOND	6.00	7.00	8.50	10.00
$\bar{X}$	514.93	174.69	23.08	1.85
S	144.65	88.29	14.36	1.29
A_3	0.31	0.87	0.44	0.58

13 AIRPLANES
5080 HOURS

SOLO	6.00	7.00	8.50	10.00
$\bar{X}$	2349.62	873.96	164.57	14.63
S	**			
A_3				

9 AIRPLANES
2392 HOURS

MARINE

	6.00	7.00	8.50	10.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

	6.00	7.00	8.50	10.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
* NO DATA IN THIS CATEGORY
** INSUFFICIENT DATA IN THIS CATEGORY

MODEL KA-3B

6   AIRPLANES   2768   HOURS

NAVY

6   AIRPLANES

2768   HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	150.89	39.84	11.37	0.00
S	**			
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES

HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL KA-3B

61   AIRPLANES   47116   HOURS

NAVY

59 AIRPLANES
43752 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	96.96	16.80	8.28	6.07
S	141.32	31.81	29.57	29.74
A_3	2.91	4.59	6.70	6.96

14 AIRPLANES
3365 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	176.59	34.24	9.41	3.70
S	48.21	15.82	8.19	6.42
A_3	0.61	1.10	1.15	2.76

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EKA-3B

| 7 | AIRPLANES | 3128 | HOURS |

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	352.92	20.58	3.17	0.53
S	**			
A_3				

7 AIRPLANES
2824 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

1 AIRPLANES
304 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$　MEAN CUMULATIVE COUNTS PER 1000 HOURS

S　STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3　SKEWNESS OF LOAD RATE DISTRIBUTION

*　NO DATA IN THIS CATEGORY

**　INSUFFICIENT DATA IN THIS CATEGORY

MODEL EKA-3B

18   AIRPLANES   11375   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	212.95	38.86	13.07	2.19
S	315.13	64.57	23.60	4.20
A_3	1.38	2.22	2.48	2.56

17   AIRPLANES
10529   HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	149.00	11.53	0.00	0.00
S	**			
A_3				

4   AIRPLANES
846   HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-4F

14   AIRPLANES   3113   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1185.96	140.67	13.65	1.88
S	**			
A_3				

10   AIRPLANES

1222   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1218.04	73.48	0.00	0.00
S	**			
A_3				

2   AIRPLANES

111   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	562.32	122.73	17.77	1.42
S	**			
A_3				

4   AIRPLANES

1780   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-4F

48   AIRPLANES   24888   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	533.91	82.22	9.03	0.60
S	393.50	66.35	9.78	1.10
A_3	0.43	0.98	2.21	1.95

47   AIRPLANES
19501   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	567.01	172.68	25.55	2.71
S	87.54	33.92	7.17	1.74
A_3	-0.19	0.73	0.17	1.06

24   AIRPLANES
4607   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	562.32	122.73	17.77	1.42
S	**			
A_3				

4   AIRPLANES
1780   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL TA-4F
44 AIRPLANES 12010 HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	207.35	21.75	1.78	0.84
S	149.56	24.56	3.46	2.55
A_3	1.95	3.34	3.41	3.65

33 AIRPLANES
9427 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

AIRPLANES
40 HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	331.33	27.78	0.79	0.00
S	310.66	23.04	0.82	0.00
A_3	1.90	1.06	1.27	0.00

11 AIRPLANES
2544 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
* NO DATA IN THIS CATEGORY
** INSUFFICIENT DATA IN THIS CATEGORY

MODEL TA-4F

161 AIRPLANES 183858 HOURS

NAVY

137 AIRPLANES

138527 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	137.95	17.51	1.61	0.18
S	167.79	27.97	3.06	0.90
A_3	2.40	3.15	2.57	4.76

9 AIRPLANES

1991 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	590.27	60.68	3.41	0.77
S	**			
A_3				

MARINE

44 AIRPLANES

43340 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	630.44	69.08	6.06	0.69
S	547.04	93.71	10.77	1.98
A_3	1.22	3.31	4.03	5.08

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-4G

14   AIRPLANES   1921   HOURS

NAVY

14   AIRPLANES
1921   HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	2028.74	297.95	29.17	2.92
S	355.72	60.01	10.25	2.39
A_3	0.37	1.73	0.57	1.31

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	**			
S				
A_3				

MARINE

AIRPLANES

HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-4G

14   AIRPLANES   7694   HOURS

NAVY

14   AIRPLANES
7694   HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	2310.91	424.09	52.70	4.51
S	455.62	88.41	12.74	2.33
A_3	-0.00	-0.33	-0.80	0.19

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	**			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL TA-4J

269   AIRPLANES   76103   HOURS

NAVY

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	302.22	35.01	5.70	2.59
S	127.57	22.40	7.78	6.55
A_3	0.76	2.51	5.57	9.06

255 AIRPLANES
71755 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	532.34	11.09	0.97	0.32
S	382.61	10.01	1.34	0.45
A_3	1.57	1.02	2.54	2.54

16 AIRPLANES
4348 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL TA-4J

273   AIRPLANES   99735   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	338.25	38.98	4.83	1.78
S	180.50	27.70	7.39	5.77
A_3	2.47	3.69	5.13	8.07

261 AIRPLANES

94052 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$				
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	440.30	8.64	0.65	0.22
S	395.33	9.59	1.20	0.40
A_3	1.72	1.07	2.82	2.82

16 AIRPLANES

5683 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL A-4M

30   AIRPLANES   3415   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1198.92	120.87	0.00	0.00
S	**			
A_3				

9   AIRPLANES

343   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1442.91	317.67	48.90	16.87
S	331.22	139.21	27.22	10.86
A_3	0.69	1.81	1.70	2.06

28   AIRPLANES

3072   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN   THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL A-4M

32   AIRPLANES   4536   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1320.00	147.14	4.67	0.00
S	**			
A_3				

9   AIRPLANES

491   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1231.64	242.98	39.88	11.07
S	337.10	134.35	25.62	10.12
A_3	0.67	1.75	1.66	2.71

30   AIRPLANES

4045   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RA-5C

57 AIRPLANES 16647 HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	182.29	7.15	0.74	0.56
S	87.06	4.53	1.00	0.91
A_3	1.71	1.67	3.59	4.76

55 AIRPLANES
12960 HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	669.04	55.23	5.99	0.48
S	191.29	24.93	5.94	0.72
A_3	0.54	1.31	2.93	2.79

24 AIRPLANES
3686 HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RA-5C

129   AIRPLANES   112031   HOURS

NAVY

129 AIRPLANES

92556 HOURS

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	220.03	16.22	1.19	0.18
S	121.05	30.30	2.08	0.59
A_3	3.31	8.67	3.24	3.36

92 AIRPLANES

19475 HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	979.97	106.95	14.71	0.71
S	441.60	71.39	19.53	1.33
A_3	3.13	3.37	6.32	3.59

MARINE

AIRPLANES

HOURS

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6A

204 AIRPLANES 52081 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1423.31	547.56	107.94	10.07
S	439.65	222.56	59.40	7.03
A_3	1.11	1.90	2.16	2.35

161 AIRPLANES

29102 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1469.02	705.11	189.82	16.14
S	435.15	258.62	97.07	10.39
A_3	3.32	2.69	1.32	1.54

39 AIRPLANES

7139 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	919.00	246.72	40.75	3.70
S	291.85	102.03	36.20	4.87
A_3	0.56	0.97	3.12	4.25

50 AIRPLANES

13660 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1155.98	562.26	84.77	13.39
S	187.95	195.03	40.53	10.36
A_3	0.10	1.75	1.81	1.90

13 AIRPLANES

2181 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6A

413 AIRPLANES 320942 HOURS

NAVY

376 AIRPLANES

186475 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1337.74	425.89	74.14	7.00
S	444.07	213.50	56.89	9.16
A_3	0.69	1.95	3.83	7.52

187 AIRPLANES

36183 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1069.49	444.21	109.73	13.35
S	272.97	153.14	56.39	7.71
A_3	4.44	4.94	3.39	2.00

MARINE

171 AIRPLANES

72846 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	909.82	223.55	32.47	3.00
S	364.61	122.05	26.01	4.24
A_3	0.75	0.98	1.88	3.14

71 AIRPLANES

25438 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	454.90	147.66	23.31	1.32
S	219.32	114.63	22.12	3.53
A_3	1.13	2.86	3.20	6.85

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6A

| 14 | AIRPLANES | 1817 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

MARINE

14 AIRPLANES
1817 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	43.23	4.35	0.36	0.09
S	20.19	2.56	1.07	0.77
A_3	0.74	1.37	2.25	3.33

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6A

| 18 | AIRPLANES | 11930 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
AIRPLANES $\bar{X}$	*			
HOURS S				
A_3				

COMBAT	4.0G	5.0G	6.0G	7.0G
AIRPLANES $\bar{X}$	*			
HOURS S				
A_3				

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
18 AIRPLANES $\bar{X}$	44.89	4.50	0.18	0.00
11591 HOURS S	26.45	5.11	0.57	0.30
A_3	1.78	1.59	1.59	3.89

COMBAT	4.0G	5.0G	6.0G	7.0G
4 AIRPLANES $\bar{X}$	0.00	0.00	0.00	0.00
338 HOURS S	**			
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6B

14   AIRPLANES   3318   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	530.80	119.76	24.03	2.75
S	154.23	50.25	20.07	4.35
A_3	1.10	1.91	1.79	2.36

13 AIRPLANES

2992 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	289.28	77.93	16.66	4.28
S	**			
A_3				

6 AIRPLANES

326 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\tilde{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-6B

17   AIRPLANES   7669   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	431.94	94.69	17.25	2.57
S	112.16	38.95	14.78	3.07
A_3	0.76	1.53	1.71	2.26

17   AIRPLANES
6109   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	284.33	98.28	5.20	0.25
S	**			
A_3				

9   AIRPLANES
1560   HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6B

| 18 | AIRPLANES | 4211 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	5.88	3.93	0.00	0.00
S	27.03	4.92	0.00	0.00
A_3	1.83	2.52	0.00	0.00

18 AIRPLANES
4196 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	60.35	0.00	0.00	0.00
S	**			
A_3				

2 AIRPLANES
15 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6B

18   AIRPLANES   6596   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	94.57	22.78	3.99	0.00
S	78.26	27.34	7.99	0.00
A_3	2.84	2.66	3.34	0.00

18   AIRPLANES
6581   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	60.35	0.00	0.00	0.00
S	**			
A_3				

2   AIRPLANES
15   HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL A-6C

| 10 | AIRPLANES | 1311 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	474.09	113.48	6.22	0.92
S	**			
A_3				

10 AIRPLANES
1174 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

1 AIRPLANES
137 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\dot{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6C

| 12 | AIRPLANES | 2507 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	439.91	110.50	5.98	0.41
S	72.06	29.33	4.55	0.66
A_3	-0.42	0.19	0.97	2.50

12 AIRPLANES
2208 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	581.03	302.66	58.59	9.70
S	**			
A_3				

3 AIRPLANES
299 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL KA-6D

44   AIRPLANES   15211   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	37.39	4.61	0.64	0.16
S	38.64	6.28	1.26	0.31
A_3	3.75	4.74	5.43	5.43

43   AIRPLANES

9399   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	23.57	4.55	1.04	0.00
S	18.18	5.12	2.10	0.00
A_3	1.27	2.06	2.98	0.00

23   AIRPLANES

5812   HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL KA-6D

| 46 | AIRPLANES | 24494 | HOURS |

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	27.89	3.64	0.65	0.20
S	31.28	5.20	1.16	0.52
A_3	3.47	3.93	3.32	4.64

45 AIRPLANES
17328 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	21.71	4.04	0.97	0.00
S	17.02	4.60	1.88	0.00
A_3	1.19	2.21	3.20	0.00

27 AIRPLANES
7166 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6E

21. AIRPLANES 5168 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	717.16	143.04	16.51	2.34
S	278.57	87.65	20.60	3.47
A_3	3.02	3.22	3.33	2.75

21 AIRPLANES
5168 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6E

21   AIRPLANES   5533   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	967.04	180.70	25.05	2.29
S	473.31	93.76	21.55	3.35
A_3	3.05	2.74	2.81	2.76

21 AIRPLANES
5533 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-7A

90   AIRPLANES   29963   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	632.30	133.00	13.68	0.51
S	352.14	79.86	9.87	1.28
A_3	2.31	2.18	1.55	4.27

89   AIRPLANES
20790   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	918.69	312.11	28.47	1.96
S	185.05	97.83	16.06	2.69
A_3	-0.47	0.42	0.94	3.02

35   AIRPLANES
9173   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-7A

194   AIRPLANES   230678   HOURS

NAVY

194 AIRPLANES

167544 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1146.50	214.72	22.37	2.22
S	419.05	101.36	16.54	2.90
A_3	-0.01	0.62	1.44	2.41

133 AIRPLANES

63134 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	745.79	232.94	32.75	2.69
S	149.42	69.97	16.22	2.46
A_3	-0.22	0.86	0.91	1.75

MARINE

AIRPLANES

HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	✳			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	✳			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

✳   NO DATA IN THIS CATEGORY

✳✳   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-7B

81   AIRPLANES   26985   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1035.20	309.59	48.58	7.77
S	426.24	160.51	50.59	14.75
A_3	0.86	1.24	3.93	5.03

78   AIRPLANES
20298   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1257.08	419.71	52.12	2.62
S	310.72	99.26	23.89	1.62
A_3	-0.62	-0.66	1.65	0.54

25   AIRPLANES
6686   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-7B

83 AIRPLANES 27584 HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1061.56	313.53	47.91	7.61
S	442.73	159.94	49.96	14.56
A_3	1.07	1.20	4.00	5.11

80 AIRPLANES
20866 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	1255.93	419.94	52.17	2.62
S	310.18	99.04	23.71	1.61
A_3	-0.61	-0.66	1.65	0.54

25 AIRPLANES
6717 HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-7C

27   AIRPLANES   9313   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	566.74	100.76	7.72	1.10
S	108.79	29.19	4.31	0.82
A_3	0.70	0.75	1.05	1.44

23   AIRPLANES
3422   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	709.15	156.10	16.92	1.11
S	175.65	36.92	6.04	0.98
A_3	1.15	0.11	0.40	1.21

19   AIRPLANES
- 5891   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-7C

28   AIRPLANES   11262   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	800.17	100.48	5.98	0.78
S	228.55	36.80	3.39	0.76
A_3	0.32	0.17	0.71	1.33

25   AIRPLANES
5371   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	709.15	156.10	16.92	1.11
S	175.65	36.92	6.04	0.98
A_3	1.15	0.11	0.40	1.21

19   AIRPLANES
5891   HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-7E

118   AIRPLANES   21734   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	949.05	133.19	7.20	0.99
S	270.73	45.53	4.35	1.88
A_3	1.55	1.13	2.88	5.54

108 AIRPLANES

16835 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	348.41	70.73	4.43	0.27
S	39.16	14.81	1.71	0.44
A_3	0.43	0.66	1.30	4.58

30 AIRPLANES

4899 HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-7E

118 AIRPLANES 22472 HOURS

NAVY

108 AIRPLANES

17574 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	923.47	129.44	7.19	0.93
S	271.42	45.29	4.34	1.84
A_3	1.57	1.22	2.74	5.54

30 AIRPLANES

4899 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	348.41	70.73	4.43	0.27
S	39.16	14.81	1.71	0.44
A_3	0.43	0.66	1.30	4.58

MARINE

AIRPLANES

HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

$\bar{A}_3$ SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL C-2A

12   AIRPLANES   2390   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	23.27	12.20	9.05	8.07
S	73.12	30.19	17.45	17.57
A_3	2.72	2.14	2.77	2.78

12 AIRPLANES
2390 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL C-2A

18   AIRPLANES   47942   HOURS

NAVY

18   AIRPLANES

47942   HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	53.45	16.74	7.26	2.13
S	65.89	28.88	12.43	4.97
A_3	2.05	2.46	2.09	1.73

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-4B

231   AIRPLANES   42730   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2237.36	814.10	290.70	74.12
S	700.84	348.31	176.03	49.24
A_3	2.25	3.19	4.10	2.76

151 AIRPLANES

13970 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1257.94	522.82	197.48	46.16
S	322.42	144.04	68.10	31.37
A_3	0.55	1.06	0.99	2.55

39 AIRPLANES

10499 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	3046.58	1123.53	375.70	105.38
S	832.92	366.93	164.53	60.29
A_3	0.99	1.24	1.35	1.73

92 AIRPLANES

15142 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2640.43	1240.34	521.77	155.81
S	739.10	199.84	144.47	73.40
A_3	1.34	0.61	0.70	1.19

17 AIRPLANES

3119 HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-4B

611   AIRPLANES   819908   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1845.38	625.68	170.88	40.67
S	1086.56	487.16	199.88	73.10
A_3	2.17	2.51	4.01	6.30

571 AIRPLANES

421536 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1141.06	404.72	128.09	30.63
S	372.54	130.93	66.30	30.31
A_3	3.07	2.06	4.33	9.46

290 AIRPLANES

106957 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2162.54	680.72	162.37	34.82
S	1094.40	456.05	171.74	52.53
A_3	1.60	1.98	2.64	3.47

329 AIRPLANES

186624 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2203.49	850.18	211.52	40.20
S	686.26	336.74	143.48	39.04
A_3	1.56	1.34	2.28	3.01

226 AIRPLANES

104790 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

.S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-4B

28 AIRPLANES 5342 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

AIRPLANES

26 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	253.19	66.93	15.79	3.40
S	100.29	36.27	12.14	4.65
A_3	1.55	1.63	2.61	3.59

28 AIRPLANES

5317 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-4B

| 46 | AIRPLANES | 49703 | HOURS |

NAVY

TRAINING		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	0.00	0.00	0.00	0.00
HOURS	S	**			
	A_3				

26

COMBAT		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

TRAINING		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	374.33	91.05	18.62	4.55
HOURS	S	237.33	65.51	23.22	6.63
	A_3	1.13	3.48	2.92	4.17

46 AIRPLANES
41725 HOURS

COMBAT		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	1087.20	210.67	41.78	8.95
HOURS	S	409.39	78.92	26.21	5.42
	A_3	1.46	1.68	2.03	1.02

14 AIRPLANES
7952 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4J

366 AIRPLANES 98788 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	3055.72	1154.11	296.52	55.07
S	915.40	397.94	143.46	42.56
A_3	0.85	0.51	1.60	2.92

274 AIRPLANES
50041 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1292.48	504.27	153.05	35.42
S	272.64	107.20	47.33	32.18
A_3	1.75	1.61	2.46	5.75

124 AIRPLANES
27667 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	4099.03	1557.98	535.51	144.61
S	869.83	418.81	208.85	77.56
A_3	1.26	1.31	1.58	1.96

95 AIRPLANES
16618 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2610.66	1390.79	476.59	87.64
S	293.71	179.63	124.11	42.56
A_3	0.73	-0.63	0.25	1.14

29 AIRPLANES
4462 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4J

454   AIRPLANES   326384   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	3484.09	1317.68	428.97	111.12
S	1679.79	825.84	341.70	109.33
A_3	1.19	1.58	2.07	2.72

414 AIRPLANES
179899 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1105.62	448.21	137.63	35.44
S	318.61	140.65	60.83	37.89
A_3	1.35	2.83	2.84	4.47

157 AIRPLANES
43854 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	4818.38	1863.54	616.07	178.64
S	1527.43	639.40	285.04	115.31
A_3	1.10	1.03	1.03	1.63

169 AIRPLANES
95255 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2985.16	1421.84	482.40	88.75
S	604.02	277.43	168.93	43.22
A_3	2.68	2.23	1.93	1.32

44 AIRPLANES
7376 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL DF-8F

2   AIRPLANES   166   HOURS

NAVY

2   AIRPLANES
166   HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL DF-8F

13   AIRPLANES   9599   HOURS

NAVY

13 AIRPLANES

9599 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	405.48	91.31	11.23	0.82
S	271.17	95.23	15.41	1.65
A_3	0.49	0.76	1.93	1.35

COMBAT	4.0G	5.0G	6.0G	7.0G
AIRPLANES $\bar{X}$	*			
S				
HOURS A_3				

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
AIRPLANES $\bar{X}$	*			
S				
HOURS A_3				

COMBAT	4.0G	5.0G	6.0G	7.0G
AIRPLANES $\bar{X}$	*			
S				
HOURS A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL RF-8G

17   AIRPLANES   3927   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	194.34	37.88	7.10	1.43
S	73.52	16.47	5.02	1.29
A_3	0.67	0.81	0.71	1.03

16 AIRPLANES
3855 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	363.63	141.72	18.65	0.00
S	**			
A_3				

2 AIRPLANES
62 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
*   NO DATA IN THIS CATEGORY
**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-8G

30   AIRPLANES   23990   HOURS

NAVY

29   AIRPLANES

22893   HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	487.23	144.84	34.05	4.97
S	219.63	73.24	28.37	8.14
A_3	-0.19	0.31	1.53	4.20

11   AIRPLANES

1097   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1528.38	402.87	62.52	7.51
S	392.03	91.17	26.79	5.79
A_3	1.20	2.05	1.90	1.58

MARINE

AIRPLANES

HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-8H

48   AIRPLANES   8866   HOURS

NAVY

48 AIRPLANES
8866 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1404.40	445.72	74.69	10.91
S	376.08	152.74	33.04	9.02
A_3	-0.04	0.78	0.72	2.93

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8H

85   AIRPLANES   61077   HOURS

NAVY

85 AIRPLANES

47856 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1556.13	499.24	97.34	12.83
S	509.64	181.77	41.05	8.45
A_3	0.44	0.55	0.23	1.63

45 AIRPLANES

13220 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	711.67	197.56	41.43	6.17
S	254.48	82.47	19.81	4.49
A_3	2.35	2.77	2.28	1.32

MARINE

AIRPLANES

HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-8J

97   AIRPLANES   22901   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2316.55	714.24	120.76	14.56
S	609.43	233.00	48.17	9.79
A_3	0.39	0.95	1.66	2.54

96   AIRPLANES
16370   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	981.20	323.07	70.65	11.98
S	160.08	88.23	26.47	14.28
A_3	1.26	1.04	1.97	3.90

39   AIRPLANES
- 6531   HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-8J

134   AIRPLANES   92321   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2073.87	639.28	121.91	15.24
S	635.16	224.10	49.41	9.74
A_3	0.84	0.61	0.51	1.27

134 AIRPLANES
66775 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	741.65	249.79	53.13	8.65
S	311.16	138.60	35.43	9.38
A_3	2.81	3.17	3.15	3.75

93 AIRPLANES
25545 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL F-8K

| 44 | AIRPLANES | 6424 | HOURS |

NAVY

| 44 AIRPLANES |
| 6424 HOURS |

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1946.24	643.95	134.36	14.79
S	580.99	224.03	55.19	9.51
A_3	0.62	1.20	1.96	2.59

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	**			
S HOURS				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8K

71   AIRPLANES   29063   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1437.82	446.20	96.91	11.72
S	650.03	235.88	56.92	7.97
A_3	2.14	2.88	3.90	1.75

71 AIRPLANES
29030 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	4829.26	1394.82	324.53	24.96
S	**			
A_3				

2 AIRPLANES
32 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8L

2   AIRPLANES   52   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	92.28	23.07	23.07	0.00
S	**			
A_3				

2 AIRPLANES
52 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8L

36   AIRPLANES   9855   HOURS

NAVY

	TRAINING	4.0G	5.0G	6.0G	7.0G
36 AIRPLANES	$\bar{X}$	1711.45	498.07	122.96	19.19
9855 HOURS	S	427.63	204.07	66.53	13.14
	A_3	0.81	0.84	1.31	1.17

	COMBAT	4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

	TRAINING	4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

	COMBAT	4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT   DATA   IN THIS   CATEGORY

MODEL P-3A

94   AIRPLANES   53438   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	11.20	0.44	0.07	0.01
S	47.69	2.37	0.40	0.14
A_3	8.95	8.36	6.55	9.52

94 AIRPLANES
50154 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	6.07	0.00	0.00	0.00
S	**			
A_3				

7 AIRPLANES
3284 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL P-3A

151   AIRPLANES   731176   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	19.54	1.84	0.23	0.03
S	40.42	4.90	1.61	0.29
A_3	3.52	6.19	9.43	7.09

150 AIRPLANES
642561 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	12.80	1.21	0.09	0.01
S	14.92	2.36	0.41	0.11
A_3	2.94	2.40	3.97	9.84

101 AIRPLANES
88615 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL P-3B

114   AIRPLANES   91342   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	3.28	0.21	0.02	0.02
S	4.61	0.63	0.12	0.12
A_3	4.36	3.89	10.23	10.23

114 AIRPLANES
65111 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	3.06	0.17	0.00	0.00
S	3.64	0.58	0.00	0.00
A_3	2.12	4.23	0.00	0.00

56 AIRPLANES
26231 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL P-3B

124   AIRPLANES   507964   HOURS

NAVY

124 AIRPLANES

423968 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	12.20	1.06	0.12	0.03
S	26.52	2.48	0.43	0.20
A_3	2.32	2.14	2.01	4.67

78 AIRPLANES

83995 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	5.00	0.4	0.03	0.01
S	5.47	0.1	0.15	0.11
A_3	0.61	2.2	5.71	8.41

MARINE

AIRPLANES

HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HORS

S   STANDARD   DEVIATION   OF   CUMULATIVE   UNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL P-3C

44 AIRPLANES 24722 HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	5.00	0.41	0.13	0.05
S	7.51	1.18	0.49	0.20
A_3	3.39	2.99	4.22	5.92

44 AIRPLANES

24387 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

2 AIRPLANES

335 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL P-3C

44   AIRPLANES   40862   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	16.13	0.67	0.08	0.04
S	68.00	2.50	0.47	0.22
A_3	5.87	4.72	3.84	4.18

44   AIRPLANES
40527   HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

2   AIRPLANES
335   HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL ES-2D

6 AIRPLANES 1931 HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	11.21	1.46	0.55	0.00
S	**			
A_3				

6 AIRPLANES

1931 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ **MEAN CUMULATIVE COUNTS PER 1000 HOURS**

S   **STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS**

A_3 **SKEWNESS OF LOAD RATE DISTRIBUTION**

*   **NO DATA IN THIS CATEGORY**

**   **INSUFFICIENT DATA IN THIS CATEGORY**

MODEL ES-2D

6   AIRPLANES   3510   HOURS

NAVY

6 AIRPLANES

3510 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	10.41	1.15	0.27	0.00
S	**			
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES

HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL S-2E

113 AIRPLANES 42177 HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	84.68	14.46	2.85	1.09
S	173.16	22.18	6.33	4.20
A_3	6.13	4.23	3.96	4.98

113 AIRPLANES
41962 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

5 AIRPLANES
-215 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2E

228 AIRPLANES 533504 HOURS

NAVY

228 AIRPLANES

504623 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	70.79	12.39	3.06	1.01
S	253.88	25.82	7.19	3.37
A$_3$	5.92	3.40	2.55	2.34

65 AIRPLANES

29981 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	40.67	7.47	1.14	0.42
S	67.96	7.95	1.70	1.33
A$_3$	5.07	2.05	2.66	5.00

MARINE

AIRPLANES

HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A$_3$				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A$_3$				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A$_3$ SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2G

| 28 | AIRPLANES | 11694 | HOURS |

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	23.24	3.82	0.67	0.27
S	24.24	9.71	4.26	2.99
A_3	1.66	3.91	4.67	4.93

28 AIRPLANES
11694 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2G

28 AIRPLANES 11694 HOURS

NAVY

28 AIRPLANES

11694 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	23.24	3.82	0.67	0.27
S	24.24	9.71	4.26	2.99
A_3	1.66	3.91	4.67	4.93

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES

HOURS

MARINE

AIRPLANES

HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

AIRPLANES

HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	**			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-2A

21   AIRPLANES   7721   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	135.32	15.87	2.29	0.00
S	119.42	17.07	2.24	0.00
A₃	3.23	3.46	2.23	0.00

21   AIRPLANES
7721   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A₃				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL T-2A

147 AIRPLANES 584717 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	591.29	44.73	4.94	0.99
S	446.59	56.95	6.49	2.09
A_3	0.74	1.99	1.82	2.81

147 AIRPLANES
584717 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-2B
57   AIRPLANES   19981   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	245.22	25.23	3.19	0.44
S	227.56	26.03	6.58	0.90
A_3	3.07	2.67	6.08	3.71

57   AIRPLANES
19981   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL T-2B

79	AIRPLANES	108637	HOURS

NAVY

79 AIRPLANES

108637 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	243.51	25.07	2.65	0.47
S	269.28	37.39	4.53	0.88
A_3	3.59	4.47	3.99	1.59

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$ AIRPLANES	*			
S				
A_3 HOURS				

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$ AIRPLANES	*			
S				
A_3 HOURS				

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$ AIRPLANES	*			
S				
A_3 HOURS				

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL T-2C

8   AIRPLANES   1148   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	58.18	12.73	4.78	3.55
S	**			
A_3				

8   AIRPLANES

1148   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-2C

8   AIRPLANES   1148   HOURS

NAVY

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	58.18	12.73	4.78	3.55
S	**			
A_3				

8   AIRPLANES

1148   HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\tilde{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-28B

46   AIRPLANES   21572   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	145.68	11.41	0.86	0.00
S	101.30	11.64	1.44	0.00
A_3	0.77	2.33	3.69	0.00

46 AIRPLANES
21572 HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL T-28B

98   AIRPLANES   395801   HOURS

NAVY

98   AIRPLANES

395801   HOURS

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	329.97	44.25	4.73	0.37
S	635.59	113.83	21.31	2.29
A_3	1.10	2.33	4.54	5.21

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	**			
S				
A_3 HOURS				

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	*			
S				
A_3 HOURS				

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	*			
S				
A_3 HOURS				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-28C

25 AIRPLANES 8057 HOURS

NAVY

25 AIRPLANES
8057 HOURS

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	507.56	46.54	2.24	0.36
S	327.41	35.69	2.74	0.58
A_3	0.79	1.14	1.79	2.13

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-28C

43   AIRPLANES   149763   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	1058.65	139.61	9.04	0.55
S	1293.09	195.56	12.40	1.09
A₃	0.06	0.45	0.84	1.20

43 AIRPLANES
149763 HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL T-34B

24   AIRPLANES   15416   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	639.07	70.56	6.96	0.20
S	553.04	67.30	7.99	0.56
A_3	0.43	0.56	1.29	3.32

24   AIRPLANES

15416   HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-34B

75   AIRPLANES   143804   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	1987.60	301.73	28.59	1.63
S	1283.39	229.15	23.92	5.15
A_3	-0.39	0.06	0.83	7.12

75   AIRPLANES

143804   HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

APPENDIX A

OUT-OF-SERVICE MODELS AND MODELS WHICH HAVE NOT REPORTED COUNTING
ACCELEROMETER DATA DURING THE PREVIOUS 12 MONTHS

ALL DATA
01-62 TO 12-72

MODEL F-11A

12   AIRPLANES   3744   HOURS

BLUE ANGELS

NAVY

12 AIRPLANES
3744 HOURS

		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	5414.80	1826.99	520.71	188.84
HOURS	S	2263.48	740.91	208.44	86.14
	A_3	-0.39	-0.65	-0.79	-0.37

		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

		4.0G	5.0G	6.0G	7.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
*   NO DATA IN THIS CATEGORY
**   INSUFFICIENT DATA IN THIS CATEGORY

PAGE A-2

MODEL F-11A

11   AIRPLANES   4400   HOURS

BLUE ANGELS

NAVY

		6.0G	7.0G	8.5G	10.0G
11 AIRPLANES	$\bar{X}$	740.74	192.71	12.43	3.88
4400 HOURS	S	217.97	62.76	7.33	7.05
	A_3	0.19	0.26	0.95	2.32

		6.0G	7.0G	8.5G	10.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

		5.0G	7.0G	8.5G	10.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

		6.0G	7.0G	8.5G	10.0G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL AF-1E

21   AIRPLANES   4527   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	563.04	125.53	22.27	3.60
S	200.25	52.92	16.14	4.72
A_3	0.29	0.61	1.63	2.00

21   AIRPLANES
4527   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-1H

28 AIRPLANES 7290 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	263.05	94.29	6.31	0.00
S	42.25	16.64	2.73	0.00
A_3	1.13	0.68	2.05	0.00

22 AIRPLANES
374 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	322.42	89.29	14.84	0.00
S	77.52	27.19	6.46	0.00
A_3	1.14	1.22	1.07	0.00

28 AIRPLANES
6916 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-1J

4. AIRPLANES   917   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
X̄	0.00	0.00	0.00	0.00
S	**			
A₃				

1 AIRPLANES
32 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
X̄	306.82	125.89	17.28	0.00
S	**			
A₃				

4 AIRPLANES
885 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
X̄	*			
S				
A₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
X̄	*			
S				
A₃				

AIRPLANES
HOURS

X̄ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
* NO DATA IN THIS CATEGORY
** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-3B

80   AIRPLANES   69204   HOURS

NAVY

80 AIRPLANES
60301 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	649.10	175.85	55.56	12.41
S	417.74	111.84	45.03	24.05
A_3	1.40	1.18	1.99	6.35

24 AIRPLANES
9903 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	623.15	187.81	76.83	37.49
S	244.96	120.08	77.16	46.34
A_3	0.61	1.43	2.55	2.96

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-4B

58   AIRPLANES   23177   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	681.15	238.03	49.07	7.87
S	358.28	164.65	46.69	9.80
A_3	0.67	1.04	2.09	2.14

55 AIRPLANES
20376 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	268.45	64.34	10.94	0.99
S	**			
A_3				

8 AIRPLANES
2800 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL TA-4B

21   AIRPLANES   8198   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	384.01	143.16	41.39	7.28
S	416.24	182.80	54.39	12.86
A_3	1.32	1.55	1.97	2.59

21   AIRPLANES
8199   HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL A-5A

30 AIRPLANES 11790 HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	579.58	128.26	9.04	0.89
S	487.22	42.19	4.68	1.00
A_3	4.57	0.57	0.75	1.63

30 AIRPLANES

11790 HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-5B

5   AIRPLANES   985   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	125.50	13.83	1.01	0.00
S	**			
A₃				

5   AIRPLANES
985   HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

COMBAT	3.0G	4.0G	5.0G	6.0G
$\bar{X}$	*			
S				
A₃				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A₃   SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO DATA   IN THIS   CATEGORY

**   INSUFFICIENT DATA   IN   THIS   CATEGORY

MODEL KC-130F

12   AIRPLANES   17648   HOURS

NAVY

	TRAINING	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

	COMBAT	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

	TRAINING	2.0G	2.5G	3.0G	3.5G
12 AIRPLANES	$\bar{X}$	5.76	0.42	0.08	0.00
17648 HOURS	S	5.79	0.51	0.22	0.00
	A_3	-0.38	0.30	1.82	0.00

	COMBAT	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4A

27 AIRPLANES 17193 HOURS

NAVY

27 AIRPLANES
17193 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	794.95	261.01	66.29	11.89
S	275.55	127.26	42.65	8.70
A_3	0.09	0.33	0.71	1.19

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL TF-4A

4   AIRPLANES   433   HOURS

NAVY

4   AIRPLANES

433   HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	135.48	23.72	3.32	0.00
S	**			
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES

HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4G

3   AIRPLANES   1668   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1026.48	290.88	80.22	17.65
S	146.46	78.80	33.48	11.25
A_3	-0.36	-0.07	0.03	0.30

12 AIRPLANES

7848 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1579.58	589.78	138.67	27.35
S	243.27	132.59	53.36	13.34
A_3	0.80	1.14	1.24	0.97

10 AIRPLANES

2448 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES

HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-6A

46   AIRPLANES   17986   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	190.91	25.88	1.99	0.20
S	143.14	29.94	2.18	0.75
A_3	2.41	2.60	1.96	2.92

29 AIRPLANES
12399 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	147.15	17.74	0.53	0.00
S	32.97	7.42	0.68	0.00
A_3	1.24	0.80	2.11	0.00

26 AIRPLANES
5587 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	**			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
* NO DATA IN THIS CATEGORY
** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8A

48 AIRPLANES 33043 HOURS

NAVY

48 AIRPLANES
33043 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	678.64	171.70	32.28	5.44
S	330.20	100.28	22.83	4.33
A_3	0.32	0.50	0.75	1.38

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$ AIRPLANES	*			
S HOURS				
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-8A

28 AIRPLANES 20290 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	317.32	80.22	13.37	2.05
S	120.58	36.11	7.56	1.88
A_3	0.56	0.52	0.61	1.90

23 AIRPLANES
15203 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	221.00	34.00	5.73	5.73
S	**			
A_3				

4 AIRPLANES
355 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	151.04	29.24	4.41	0.56
S	**			
A_3				

10 AIRPLANES
4726 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A_3				

AIRPLANES
6 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL TF-8A

30   AIRPLANES   4924   HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1274.72	393.67	82.63	14.88
S	354.70	139.02	33.41	6.09
A_3	0.88	2.10	2.48	0.98

30 AIRPLANES
4924 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE COUNTS PER 1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS PER   1000   HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA   IN THIS CATEGORY

**   INSUFFICIENT DATA   IN THIS   CATEGORY

MODEL F-8B

53 AIRPLANES 40015 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	813.00	203.68	34.52	3.65
S	316.12	100.90	23.43	3.94
A_3	0.99	1.13	1.73	2.98

46 AIRPLANES
29272 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	778.09	148.63	19.24	2.49
S	188.70	53.00	9.18	2.34
A_3	1.26	1.68	1.46	2.06

36 AIRPLANES
10743 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

MODEL F-8C

87 AIRPLANES 76054 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	875.42	217.67	38.78	4.89
S	534.39	164.74	37.06	6.76
A_3	1.20	1.14	1.60	2.57

78 AIRPLANES
53012 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	848.92	194.84	49.77	6.46
S	575.01	119.04	27.36	6.78
A_3	0.22	0.30	0.17	1.45

11 AIRPLANES
1689 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1217.83	346.89	67.32	10.17
S	370.14	107.60	22.36	4.73
A_3	1.83	1.60	1.66	0.05

37 AIRPLANES
20851 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	748.69	333.97	61.52	9.71
S	150.27	64.69	13.85	2.68
A_3	0.24	0.03	0.32	0.47

11 AIRPLANES
502 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8D

101 AIRPLANES 70988 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1176.54	326.40	68.29	11.47
S	490.92	154.19	37.61	7.70
A_3	0.55	0.48	0.72	1.25

93 AIRPLANES
49588 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1380.67	394.15	107.24	22.87
S	468.87	79.59	21.81	6.83
A_3	2.59	0.29	0.19	0.71

15 AIRPLANES
• 1060 HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	826.64	216.72	45.39	8.03
S	398.11	119.51	30.75	5.85
A_3	0.83	0.90	1.13	1.50

46 AIRPLANES
19583 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	546.18	88.42	8.42	4.32
S	71.24	22.70	6.19	6.09
A_3	0.78	0.55	1.85	2.38

11 AIRPLANES
759 HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8E

248   AIRPLANES   198601   HOURS

NAVY

243 AIRPLANES

125946 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1994.36	610.43	131.38	19.66
S	717.23	205.58	53.09	11.45
A_3	1.87	1.50	1.62	2.23

103 AIRPLANES

27935 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1074.97	372.62	92.68	17.22
S	193.19	101.22	41.20	15.20
A_3	0.06	0.97	3.20	5.50

MARINE

88 AIRPLANES

26217 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1551.79	453.60	92.16	15.17
S	451.22	138.34	35.57	9.01
A_3	0.49	0.04	0.50	1.61

52 AIRPLANES

18501 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1334.99	460.44	118.91	19.35
S	373.38	123.04	28.68	8.02
A_3	3.39	0.45	0.60	1.58

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL EF-10B

16   AIRPLANES   9853   HOURS

NAVY

TRAINING	3.0G	4.0G	5.0G	6.0G
AIRPLANES $\bar{X}$	*			
HOURS S				
A_3				

COMBAT	3.0G	4.0G	5.0G	6.0G
AIRPLANES $\bar{X}$	*			
HOURS S				
A_3				

MARINE

TRAINING	3.0G	4.0G	5.0G	6.0G
14 AIRPLANES $\bar{X}$	16.24	0.00	0.00	0.00
S	10.06	0.00	0.00	0.00
7526 HOURS A_3	-0.59	0.00	0.00	0.00

COMBAT	3.0G	4.0G	5.0G	6.0G
10 AIRPLANES $\bar{X}$	45.06	2.22	0.00	0.00
S	**			
2327 HOURS A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S   STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

*   NO DATA IN THIS CATEGORY

**   INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-11A

36 AIRPLANES 22538 HOURS

NAVY

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	2796.39	593.37	80.02	10.38
S	916.87	259.16	60.36	10.36
A_3	1.30	1.37	3.46	3.50

36 AIRPLANES
22538 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

MARINE

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A_3 SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2D

67   AIRPLANES   59015   HOURS

NAVY

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	33.25	7.71	1.77	0.74
S	34.30	9.23	5.36	4.85
A_3	1.72	1.98	6.51	7.25

67 AIRPLANES
59445 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	25.35	2.10	0.00	0.00
S	**			
A_3				

8 AIRPLANES
570 HOURS

MARINE

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

$\bar{X}$ MEAN   CUMULATIVE   COUNTS   PER   1000   HOURS

S   STANDARD   DEVIATION   OF   CUMULATIVE   COUNTS   PER   1000   HOURS

A_3 SKEWNESS   OF   LOAD   RATE   DISTRIBUTION

*   NO   DATA   IN   THIS   CATEGORY

**   INSUFFICIENT   DATA   IN   THIS   CATEGORY

AIR VEHICLE TECHNOLOGY DEPARTMENT
NAVAL AIR DEVELOPMENT CENTER
WARMINSTER, PA. 18974

Subj: The Determination of Sample Statistics for Counting Accelerometer
       Data

Ref: (a) Brownlee, K. A., "Statistical Theory and Methodology in
            Science and Engineering," Wiley 1965, pp. 358-359
        (b) Dixon & Massey, Introduction to Statistical Analysis,
            McGraw-Hill, Second Edition, 1957, pp. 194-195

1. The purpose of this technical memorandum is to define and justify
the methods used at NAVAIRDEVCEN in calculating statistics describing
counting accelerometer data. The subsequent outlined sequence is
repeated for each aircraft model, for each mission category, and for
each g-level where there is sufficient data.

2. These are the methods used for determining sample statistics. Consider
a scatter diagram of cumulative counts (at any g-level) vs. flight hours,
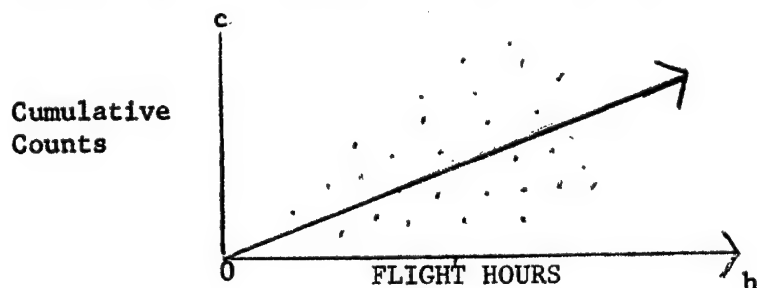
Figure 1

where each dot represents the cumulative counts and flight hours
accrued by an individual serial number which is flying or has flown.

   Let h_i be the total quality control accepted flight hours for the
       i^{th} plane (i=1, 2----N)

   Let c_i be the cumulative counts during the h_i hours for the ith plane
       (i=1, 2----N)

     N is the total number of aircraft of this model and mission
       category for which there is recorded information.

Then

   (1) $b = \dfrac{\sum\limits_{i=1}^{N} c_i h_i}{\sum\limits_{i=1}^{N} h_i^2}$ where b is slope of line (Figure 1) through origin
                                                                               fitted by least squares

   (2) $\bar{x} = 1000b$ estimated mean load exceedances at 1000 hours

$$(3) \quad \bar{h} = \frac{\sum\limits_{i=1}^{N} h_i}{N} \qquad \text{average flight hours}$$

$$(4) \quad \hat{\sigma}_{ch}^2 = \frac{\sum\limits_{i=1}^{N} (c_i - bh_i)^2}{N-1} \qquad \text{estimator of the population standard error squared of the regression}$$

$$\hat{\sigma}_{ch} = \sqrt{\hat{\sigma}_{ch}^2} \qquad \text{estimator of the population standard error of the regression}$$

$$(5) \quad S = \sqrt{1000 \ \hat{\sigma}_{ch}^2 / \bar{h}} \qquad \text{estimated standard deviation (counts at 1000 hours) of the load exceedances for each g-level}$$

$$(6) \quad A_3 = \frac{\sum\limits_{i=1}^{N} (c_i - bh_i)^3}{N \hat{\sigma}_{ch}^3} \qquad \text{estimated skewness}$$

3. The following is the explanation and justification for these methods:

Aircraft which do not have any flight hours must have zero counts; therefore, the line in figure 2 must go through (0,0). Brownlee (reference (a)) describes the methods for fitting a least squares line through the origin (0,0). The slope of this line is the estimated mean exceedance rate (per hour). Multiplying this rate by 1000 will result in exceedances at 1000 hours (equation (2)). Multiplying b by any other h number of hours will result in mean exceedances at h hours.

If the data in figure 1 were separated into flight hour intervals (see figure 2) and the standard error in each interval were plotted against average flight hours (see figure 3) in that interval, the resultant curve is assumed to have the square root functional form.* Due to limitations in sample size, these individual $\hat{\sigma}$'s could not be determined accurately; thus, it was necessary to calculate a single $\hat{\sigma}_{ch}$ for all h combined and apply it at $\bar{h}$.** Equation (5) uses figure 3 to convert $\hat{\sigma}_{ch}$ at $\bar{h}$ to S at 1000 hours.

* This is partially justified by the fact that the variance of a sum of independent random variables is equal to the sum of the independent variances. Unreported statistical tests performed at NAVAIRDEVCEN show that figure 3 is a reasonable fit to actual data. It should be noted that the $\hat{\sigma}$'s in figure 2 are estimated by equation (4), but each $\hat{\sigma}$ was calculated using the data points in the respective interval.

**The estimated standard error $\hat{\sigma}_{ch}$ is used as the standard error of estimate for a hypothetical distribution of planes all having $\bar{h}$ hours. This follows from work in reference (b).
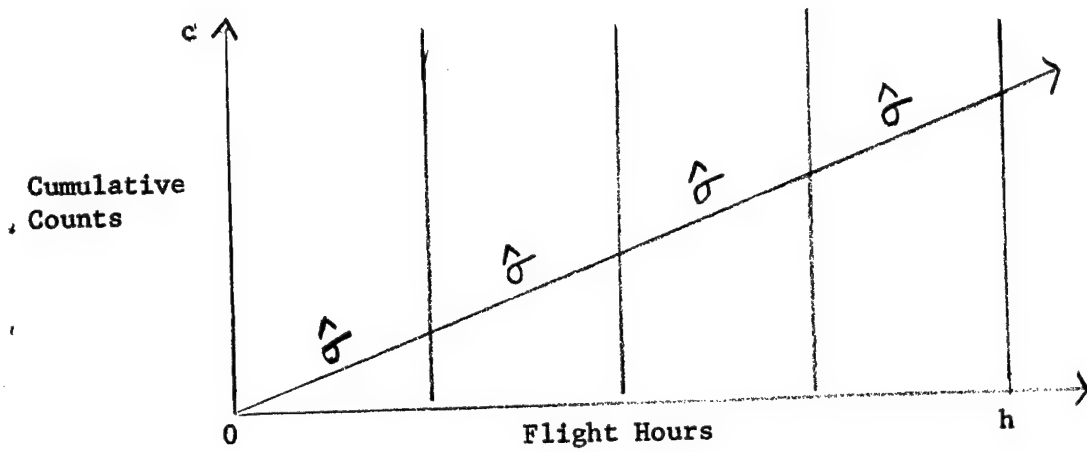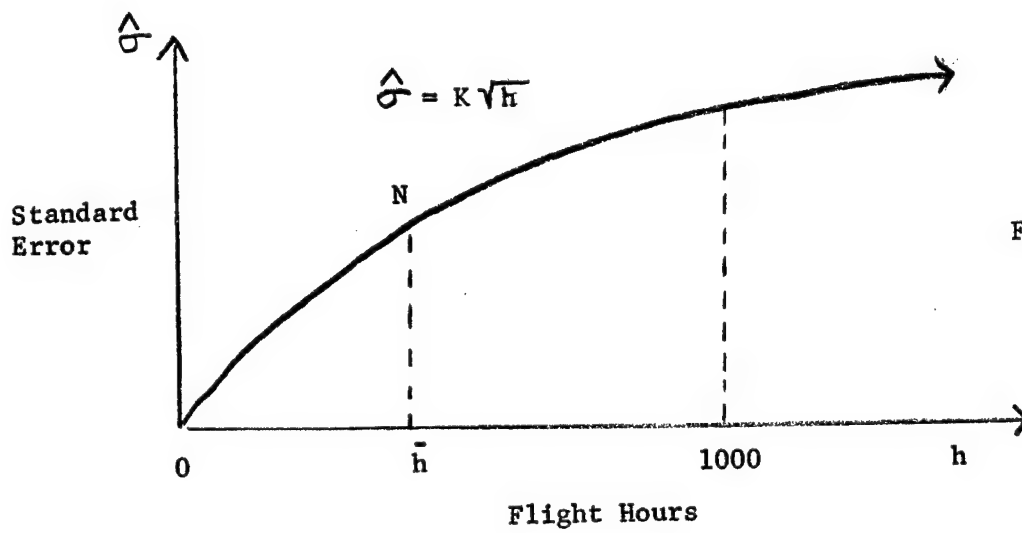
Cumulative Counts

Flight Hours

FIGURE 2

$\hat{\sigma} = K\sqrt{h}$

Standard Error

Flight Hours

FIGURE 3

B-3

If one wanted the standard error at some other value of hours h, he would simply replace 1000 in equation (5) by that value of hours h, and the appropriate standard error would result.

Skewness A_3 is computed in equation (6). This measure indicates whether more airplane load exceedances are above the mean line or below the mean line. If:

$A_3 < 0$ More load exceedances are above mean line than below

$A_3 = 0$ Equal number of load exceedances above and below mean

$A_3 > 0$ More load exceedances are below mean line than above

(Strictly speaking a distribution is symmetrical only if all its odd moments are zero; however, the above statement is approximately true.)

4. For ease of computation, equation (4) can be expanded as follows:

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^{N} (c_i - bh_i)^2$$

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^{N} (c_i^2 - 2bc_i h_i + b^2 h_i^2)$$

$$(7) \quad (N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^{N} c_i^2 - 2b \sum_{i=1}^{N} c_i h_i + b^2 \sum_{i=1}^{N} h_i^2$$

but

$$b = \frac{\sum_{i=1}^{N} c_i h_i}{\sum_{i=1}^{N} h_i^2}$$

and (7) can be reduced to

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^{N} c_i^2 - 2b \sum_{i=1}^{N} c_i h_i + b \frac{\sum_{i=1}^{N} c_i h_i \sum_{i=1}^{N} h_i^2}{\sum_{i=1}^{N} h_i^2}$$

then

$$(8) \quad \hat{\sigma}_{ch}^2 = \left(\sum_{i=1}^{N} c_i^2 - b \sum_{i=1}^{N} c_i h_i \right) \Big/ (N-1)$$

Equation (8) will be used in lieu of equation (4) in determining $\hat{\sigma}_{ch}^2$.

5. An example using F-4G training Navy data, 12 airplanes 4.0G level:

Serial No.	Counts (c_i)	Hours (h_i)
150481	1567	1341.7
150484	649	618.2
150487	1114	1100.8
150489	5	27.3
150492	768	691.7
150625	23	139.6
150629	396	555.1
150633	718	831.3
150636	854	839.1
150639	536	695.4
150642	910	775.3
150645	160	233.0

The following are tabulated:

$$\sum_{i=1}^{N} h_i = 7848.5$$

$$\sum_{i=1}^{N} c_i = 7700$$

$$\sum_{i=1}^{N} c_i h_i = 6913341.6$$

$$\sum_{i=1}^{N} h_i^2 = 6735017.87$$

$$\sum_{i=1}^{N} c_i^2 = 7250716.00$$

$$\sum_{i=1}^{N} (c_i - bh_i)^3 = -7082690$$

and are used in the following equations:

(1) $b = \dfrac{6913341.6}{6735017.87} = 1.02647$ cts. per hr.

(2) $\bar{x} = 1000 \ (1.02647) = 1026.47$ cts. at 1000 hrs.

(3) $\bar{h} = \dfrac{7848.5}{12} = 654.04$ hours

(8) $\hat{\sigma}_{ch}^2 = \dfrac{7250716 - 1.02647 \ (6913341.6)}{11} = 14034$ $\qquad \hat{\sigma}_{ch} = 118.5$

(5) $S = \sqrt{1000 \ (14034)/654} = 146.46$ cts. at 1000 hours.

(6) $A_3 = \dfrac{-7082690}{12 \ (118.5)^3} = -.36$

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13. ABSTRACT

This report is a specialized summary of normal acceleration data recorded
by counting accelerometers. Data are separated by calendar time and missione
category. Only data reported in the counting accelerometer program are
included.

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